

NUCLEIC ACID SEQUENCES CODING
FOR PROTEINS OF UNKNOWN
STRUCTURE AND FUNCTION

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PARSE DISEASE GENES INTO
DOMAIN-ENCODING REGIONS

KNOWLEDGE-
BASED PARSING
METHOD

DOMAIN TRAPPING: EXPRESSION &
BIOPHYSICAL CHARACTERIZATION

HIGH YEILD EXPRESSION, ISOTOPE
ENRICHMENT, & PURIFICATION

SCREENING FOR NMR &
CRYSTALLIZATION PROPERTIES

ANALYSIS OF PROTEIN STRUCTURE
BY NMR & X-RAYS

TERTIARY STRUCTURE HOMOLOGY
SEARCH OF PROTEIN DATA BASE

DATABASE
OF EMPIRICAL
PROPERTIES

RELATIONAL
DATABASE

STRUCTURE/FUNCTION
KNOWLEDGE BASE

ASSIGNMENT OF DOMAIN TO
FOLD & FUNCTIONAL CLASS

FIG.1

SUBSTITUTE SHEET (RULE 26)

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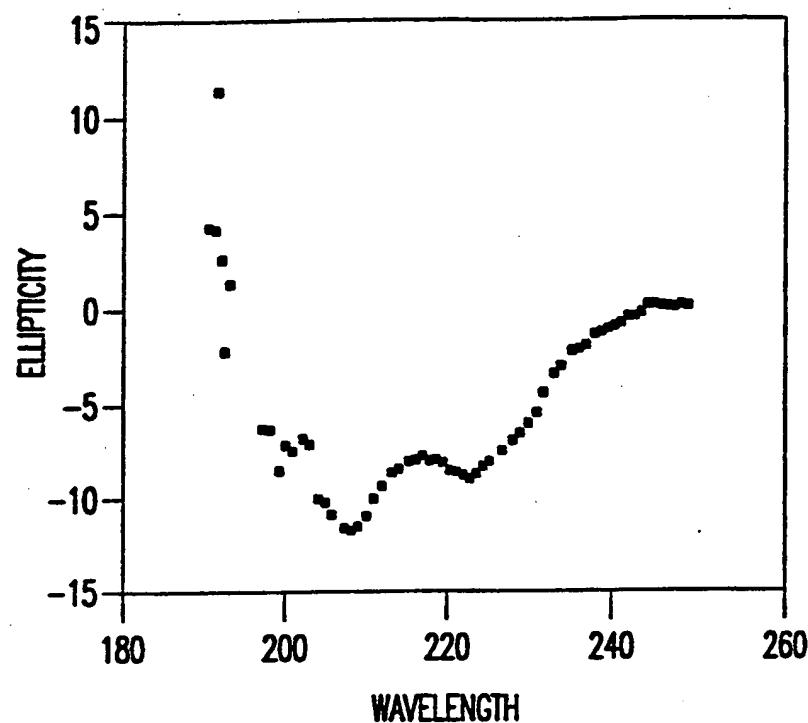


FIG.2A

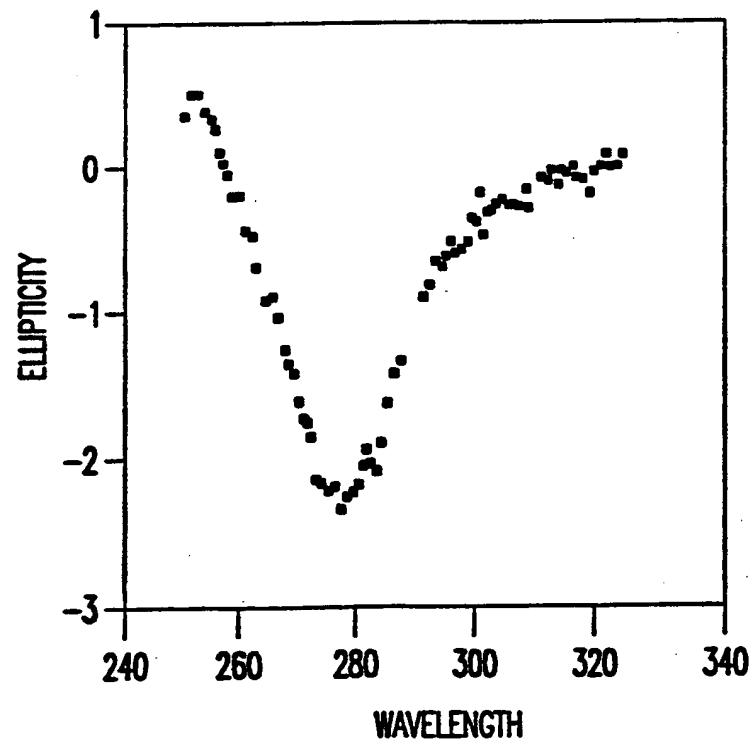


FIG.2B

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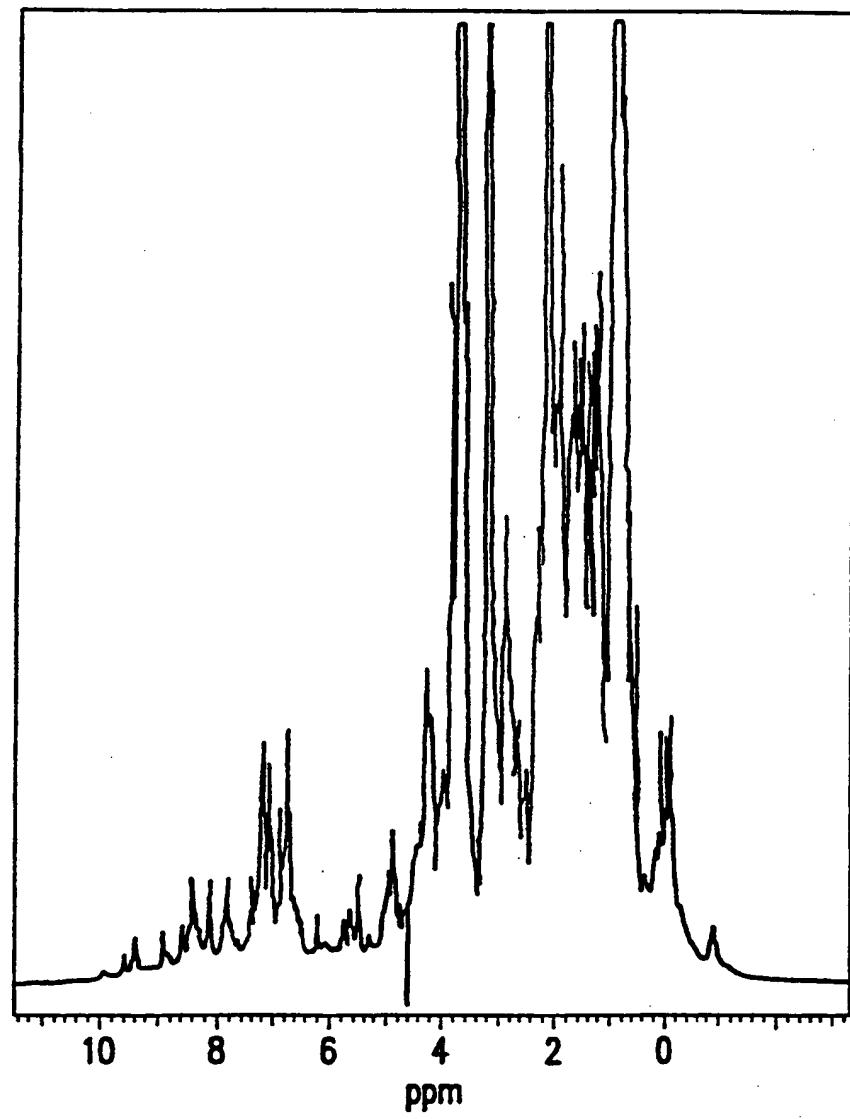


FIG.3

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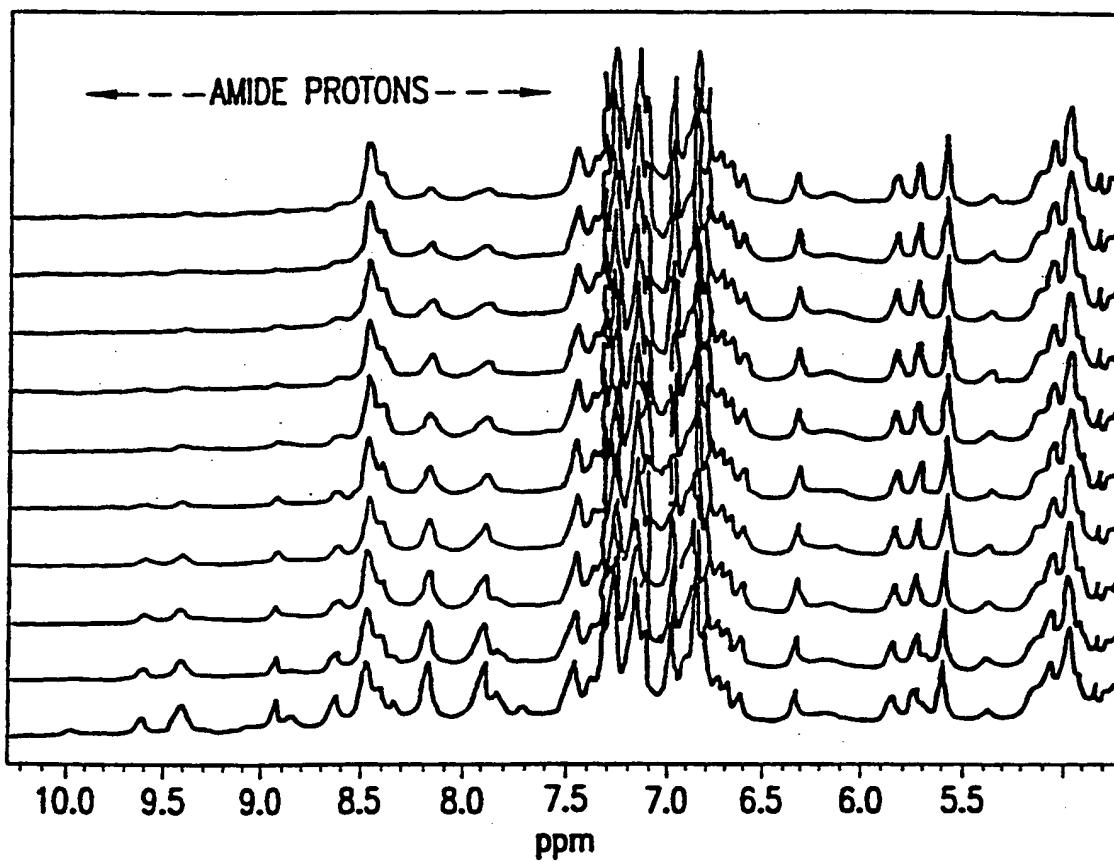


FIG.4

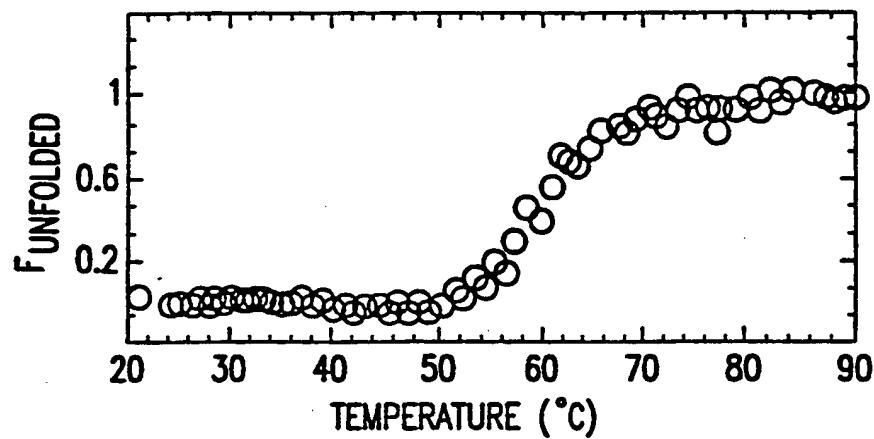
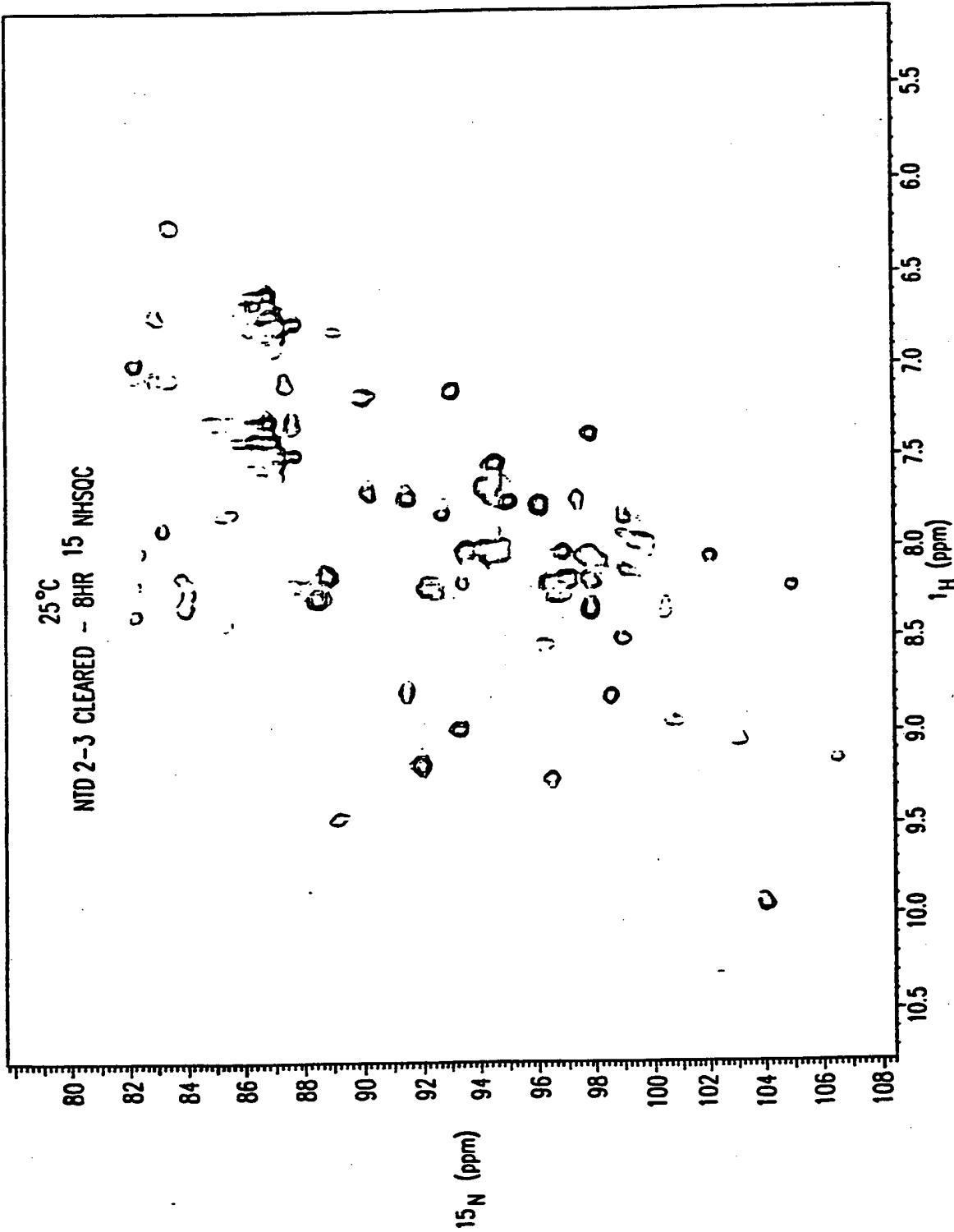


FIG.5

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FIG. 6



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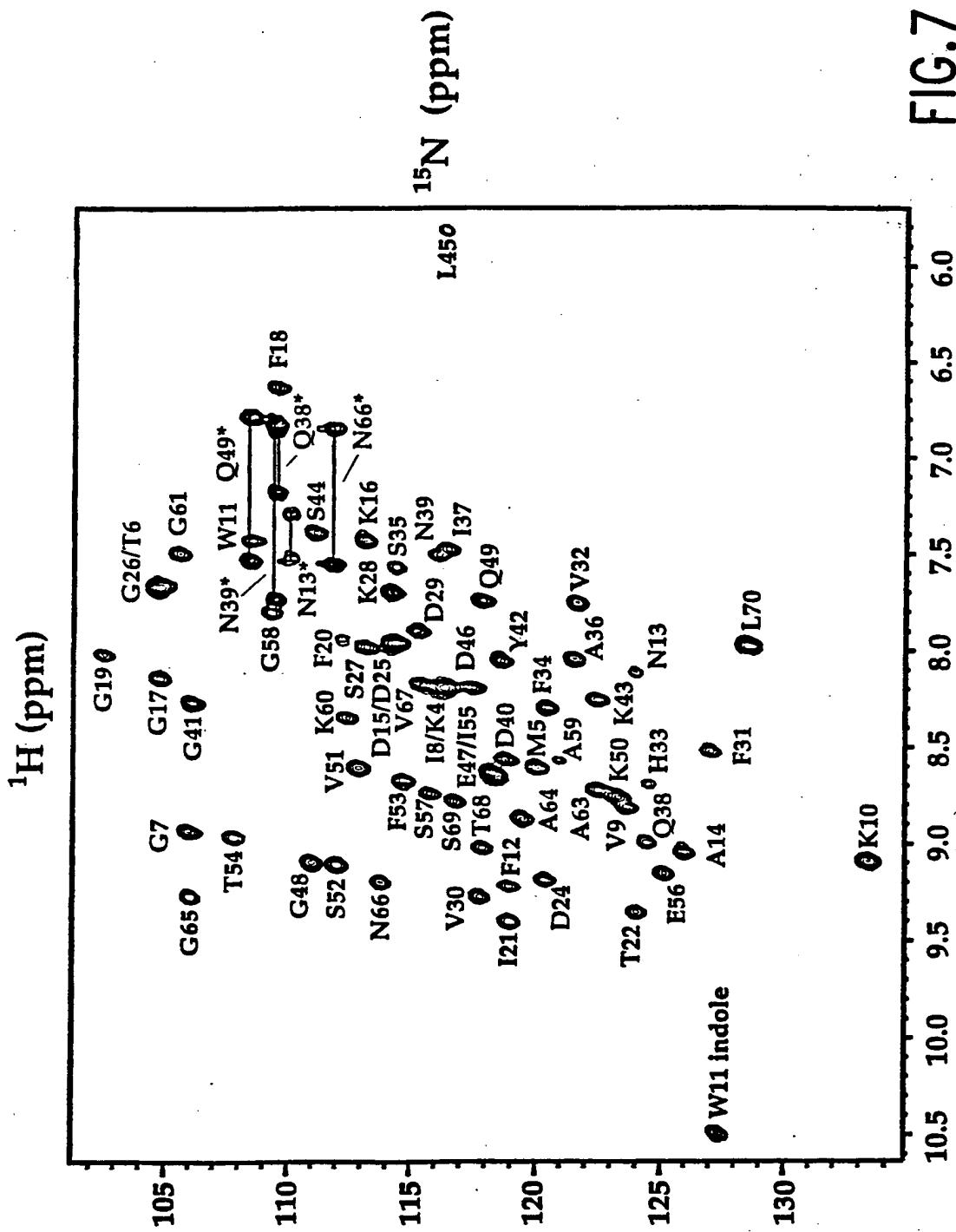


FIG. 7

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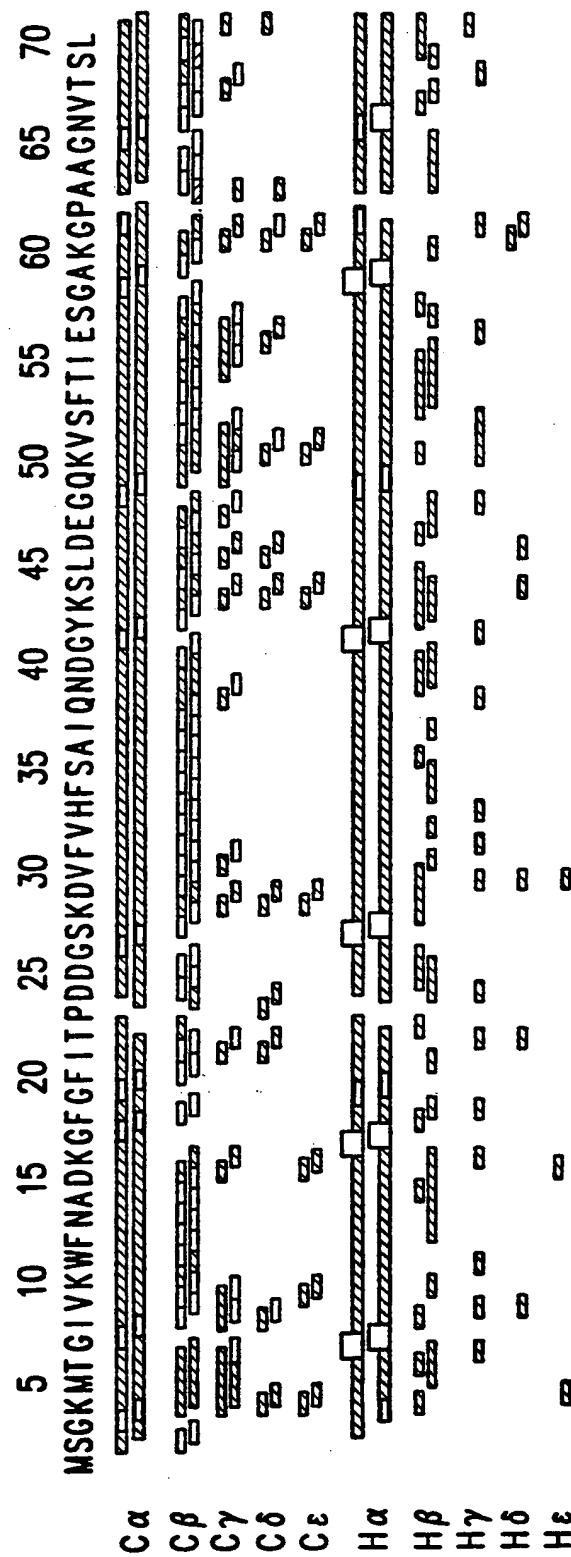


FIG. 8A



FIG. 8B

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NOESY_ASSIGN PROCESS

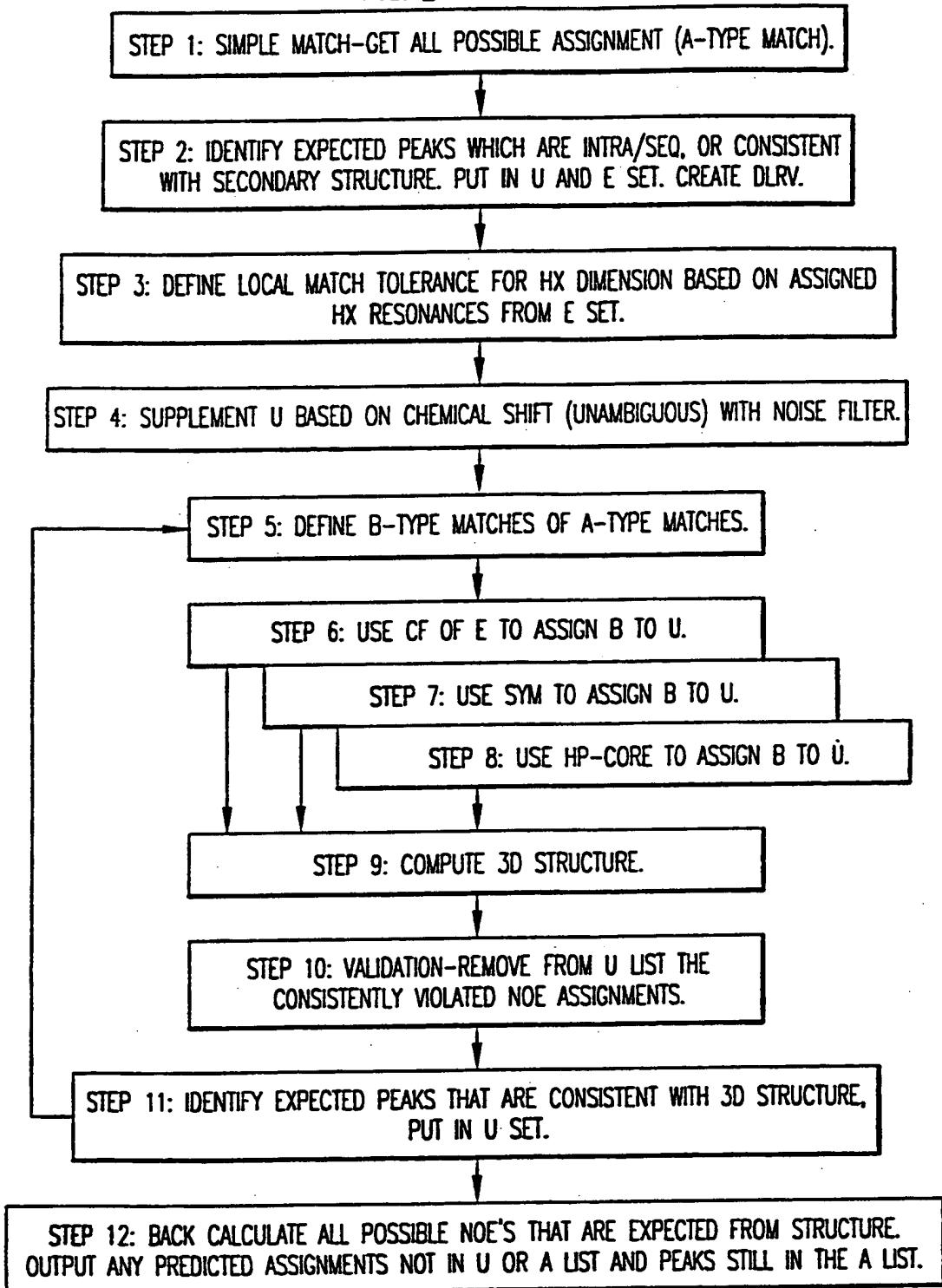


FIG.9

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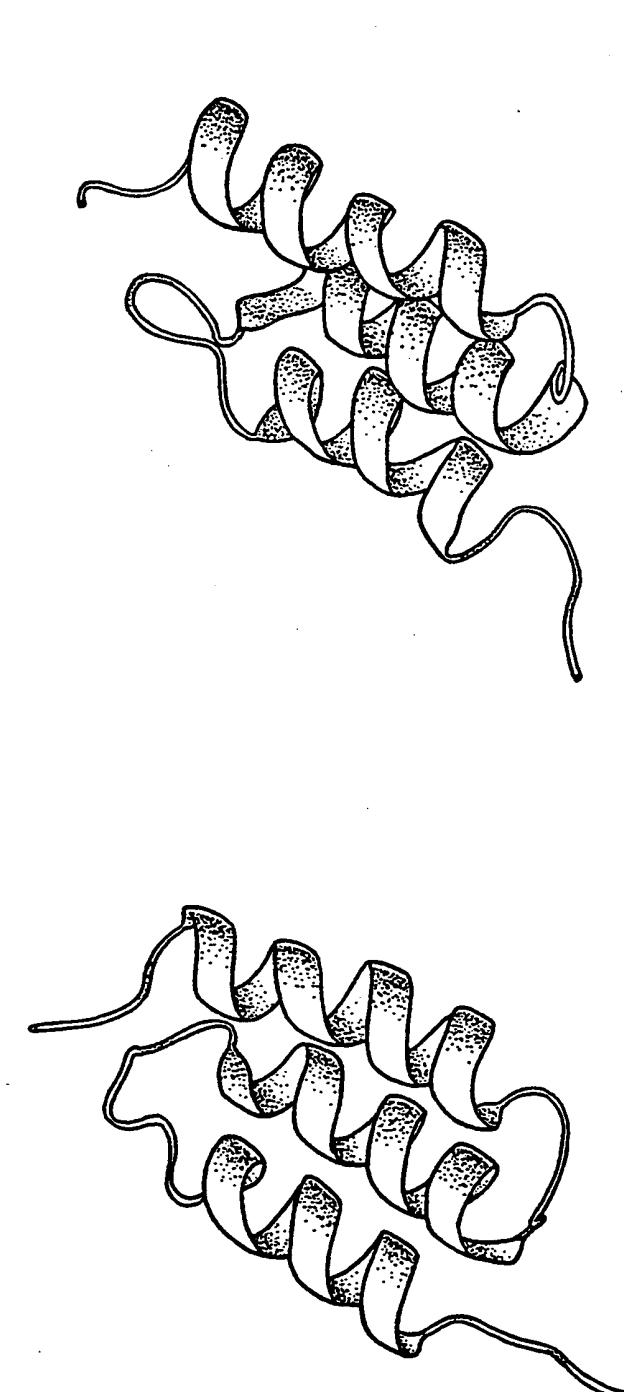


FIG. 10A

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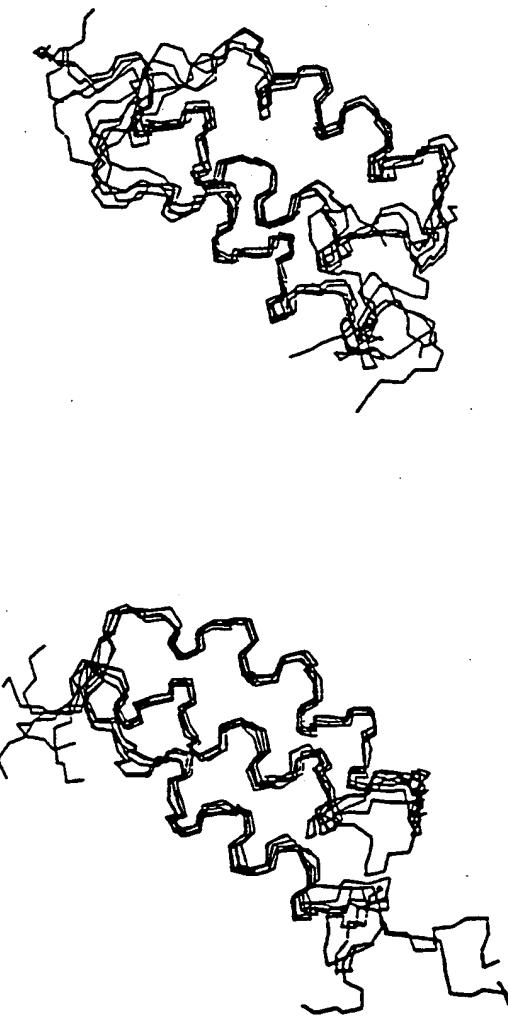


FIG. 10B

Manual Structure Analysis

Automated Structure Analysis

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Zdom: Automated Assignment Analysis

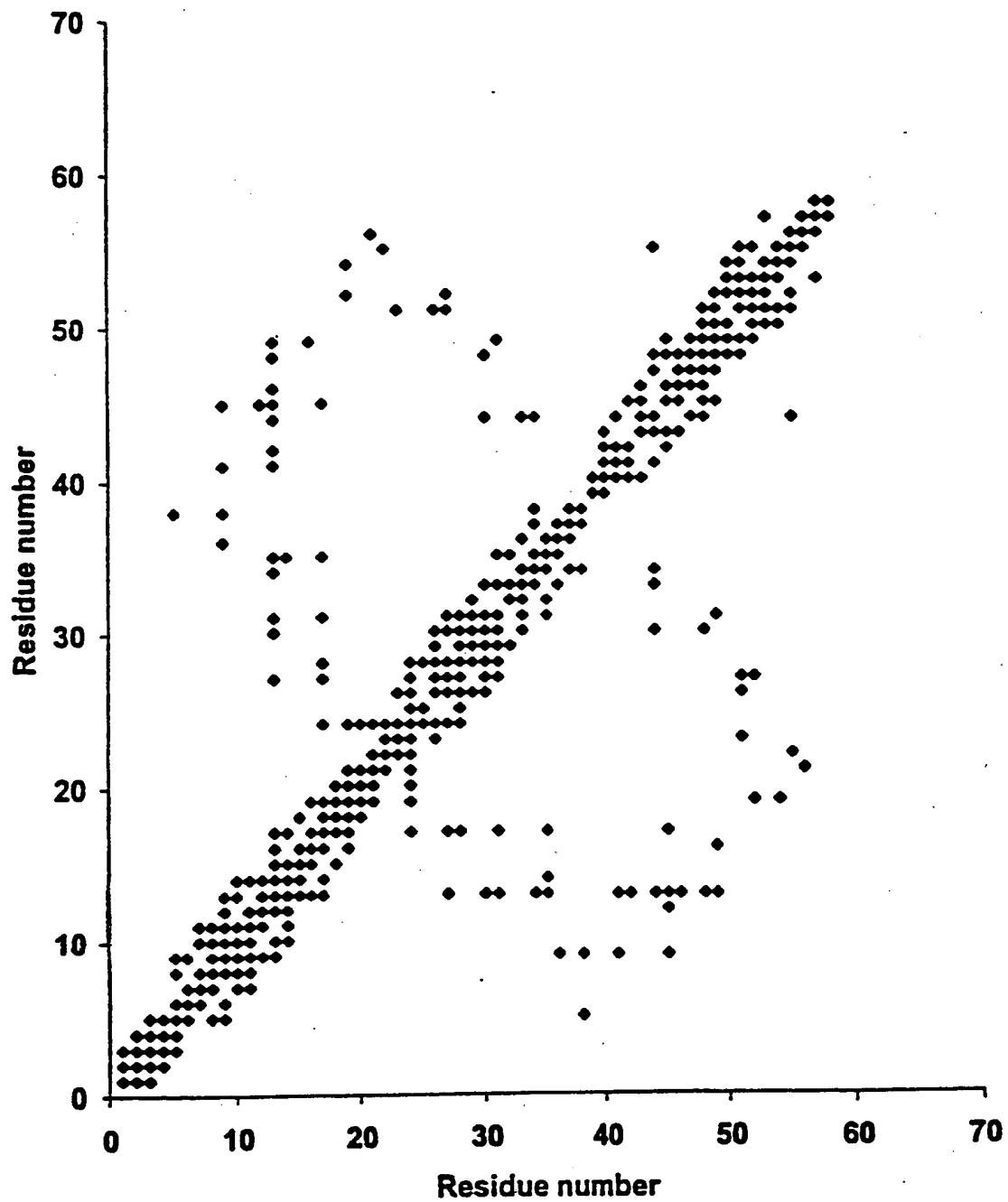


FIG.11

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Zdom: AUTOMATED STRUCTURE ANALYSIS

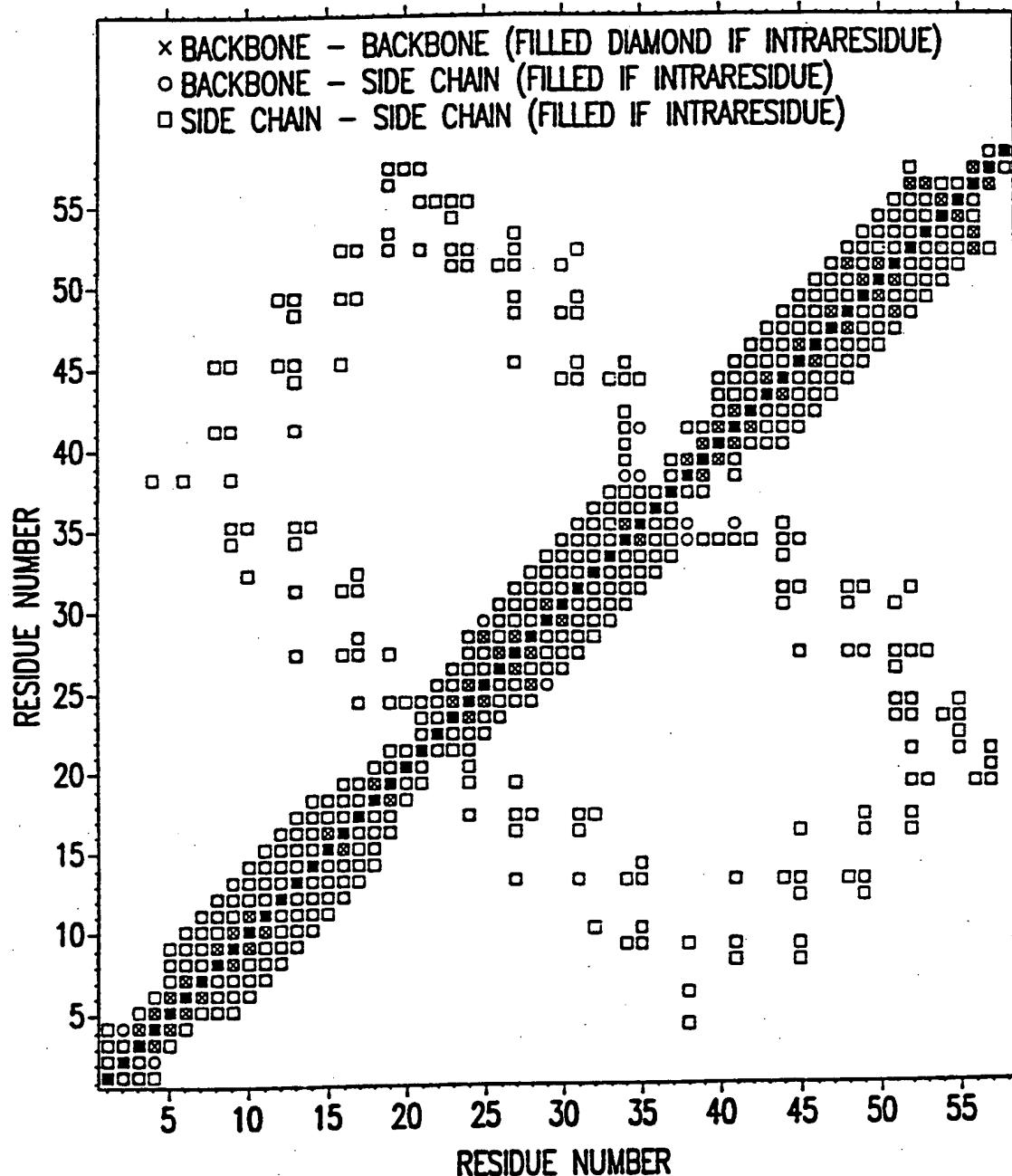


FIG.12

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Zdom: AUTOMATED ANALYSIS-CONNECTIVITY MAP

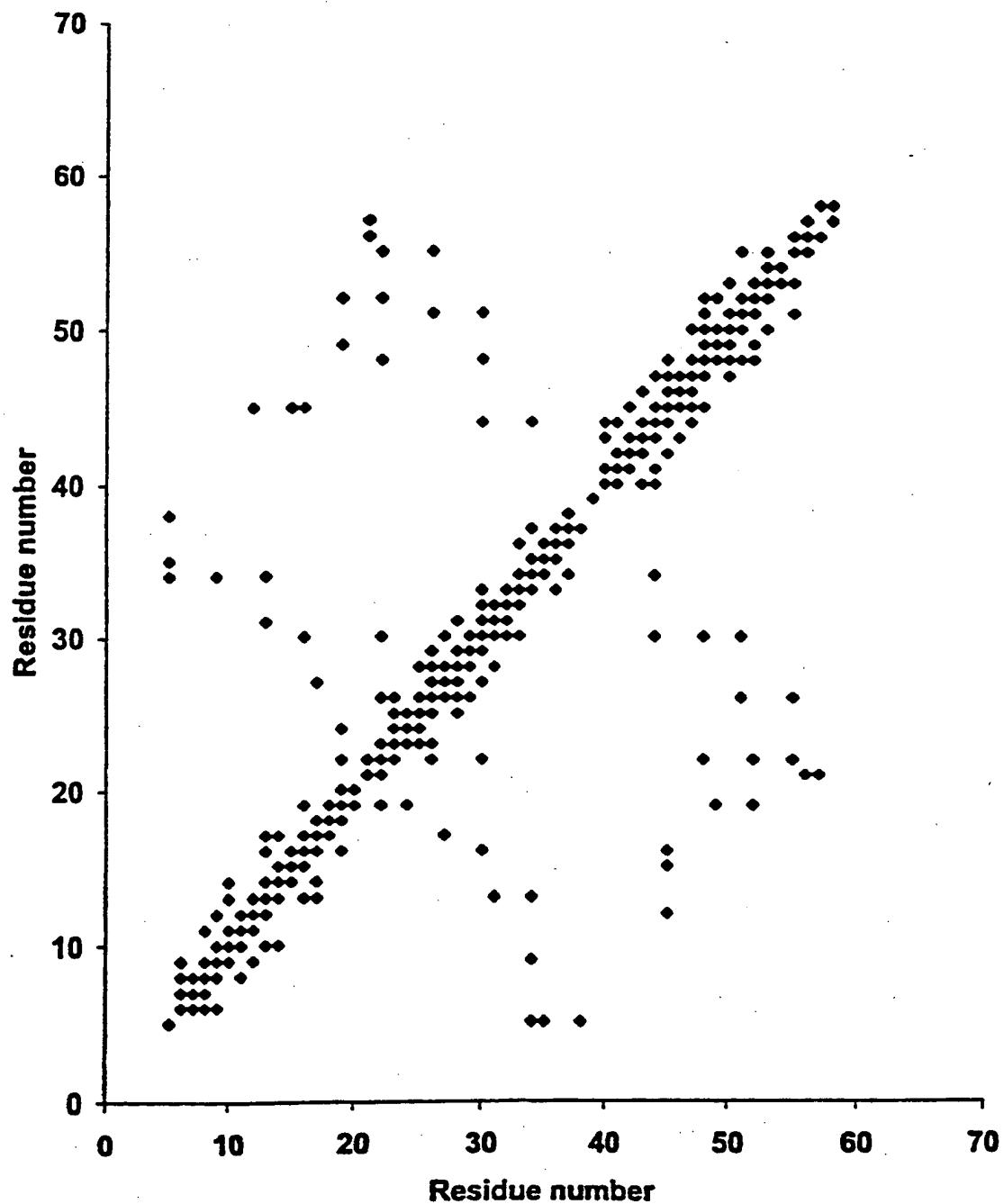
	0	1	2	3	4	5	6	7	8	9	0
NN(i,i+1)											
aN(i,i+1)											
aN(i,i+3)											
$\alpha\beta(i,i+3)$											

	1	2	3	4	5	6	7	8	9	0
NN(i,i+1)										
aN(i,i+1)										
aN(i,i+3)										
$\alpha\beta(i,i+3)$										

	2	3	4	5	6	7	8	9	0
NN(i,i+1)									
aN(i,i+1)									
aN(i,i+3)									
$\alpha\beta(i,i+3)$									

FIG. 13

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Zdom: Manual Assignment Analysis**FIG.14**

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Zdom: MANUAL STRUCTURE ANALYSIS

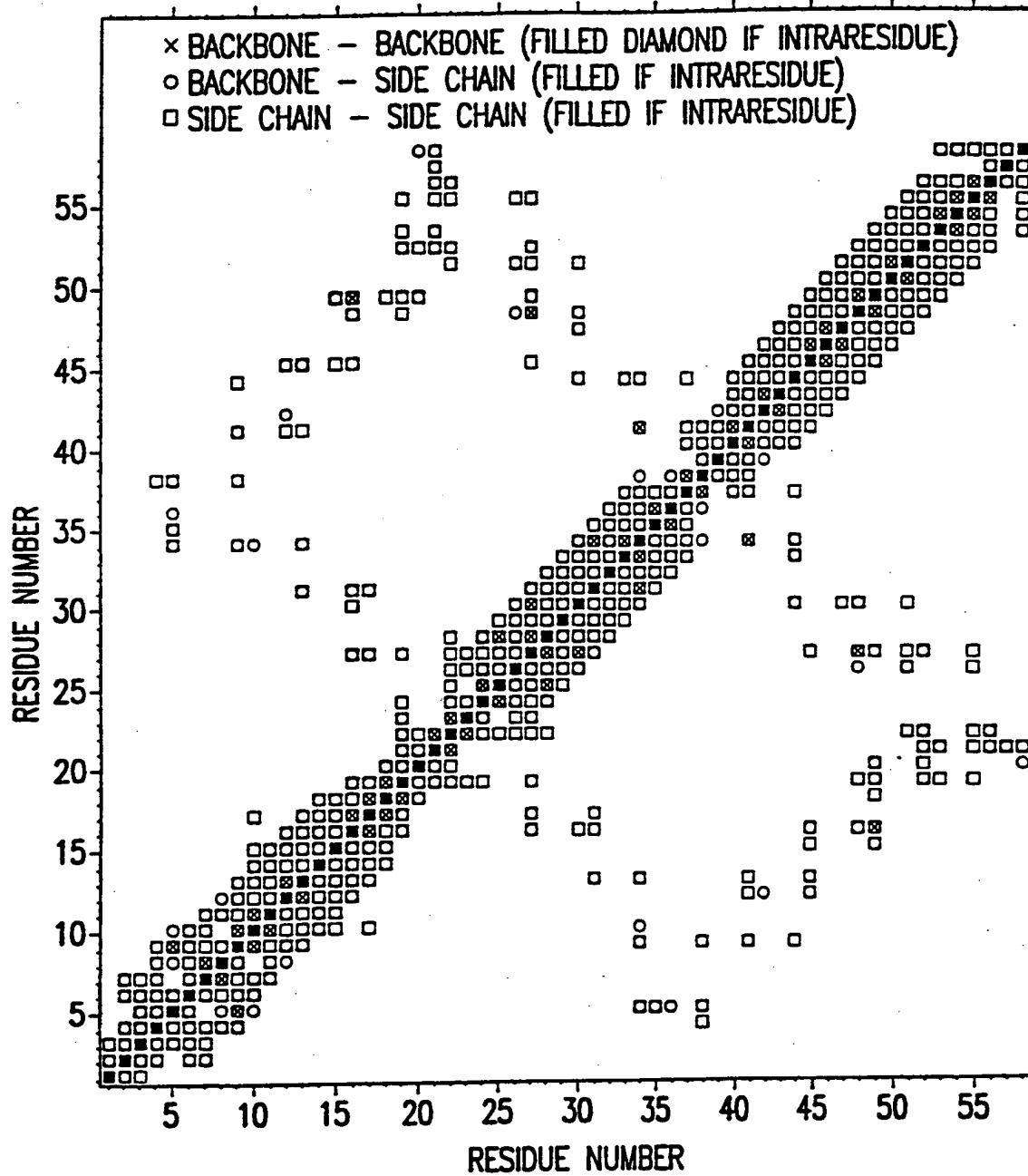


FIG.15

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Zdom: AUTOMATED ANALYSIS-CONNECTIVITY MAP

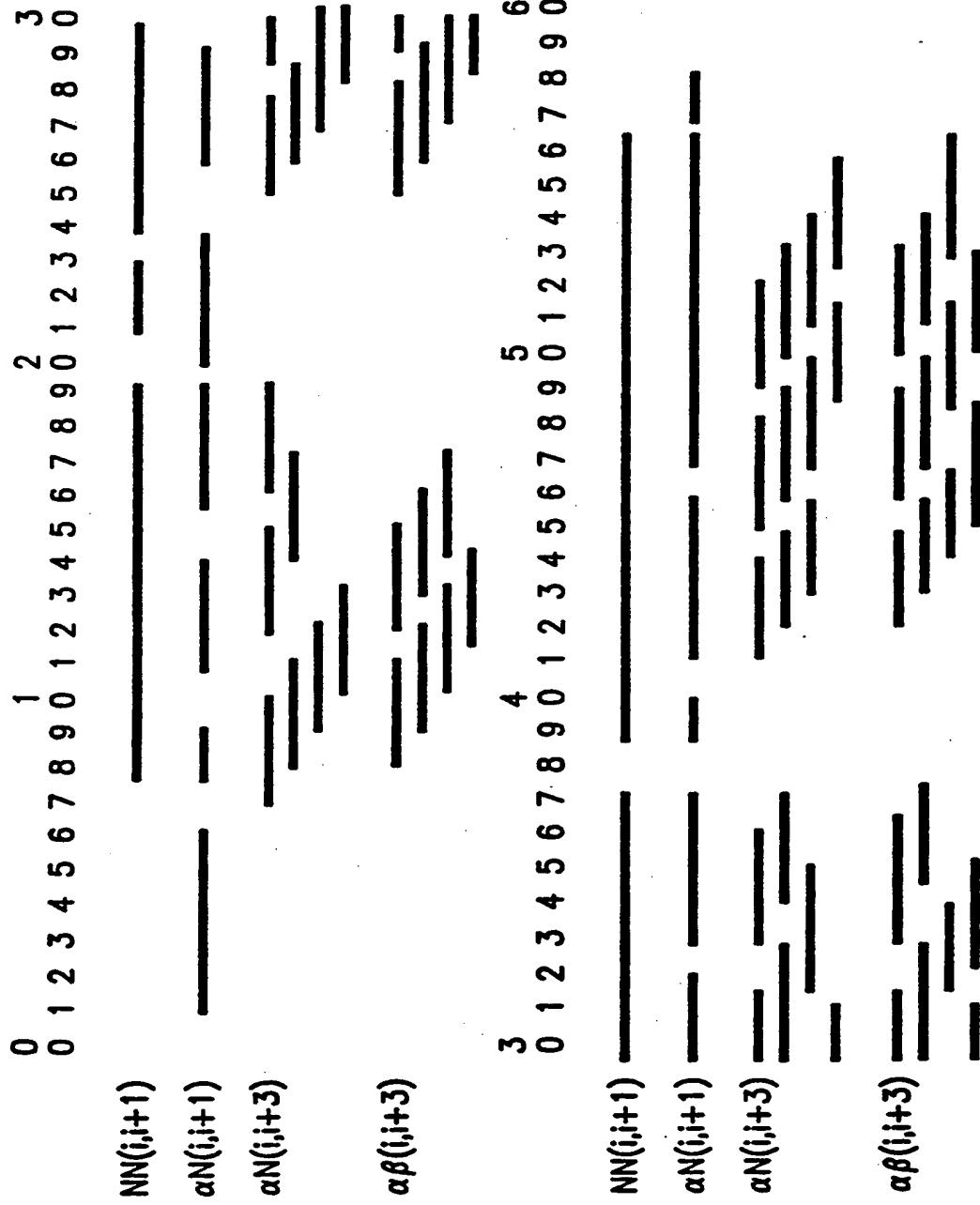
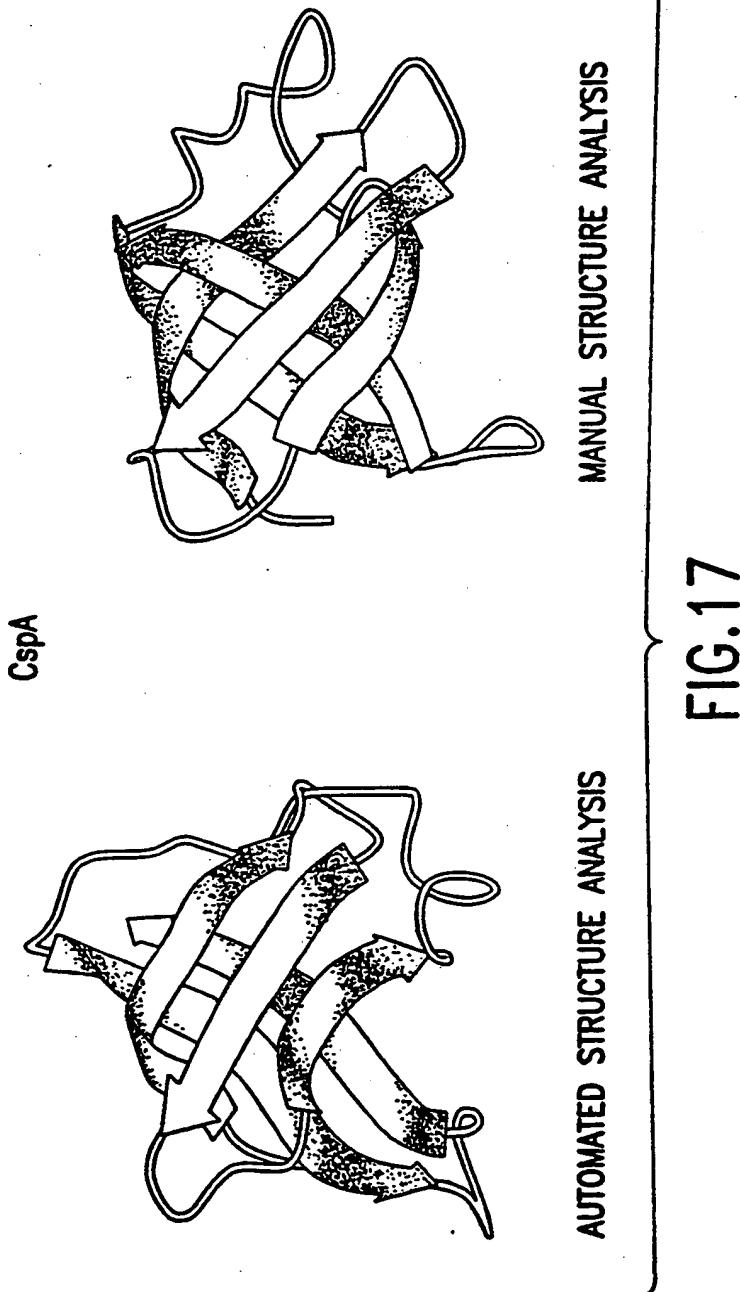
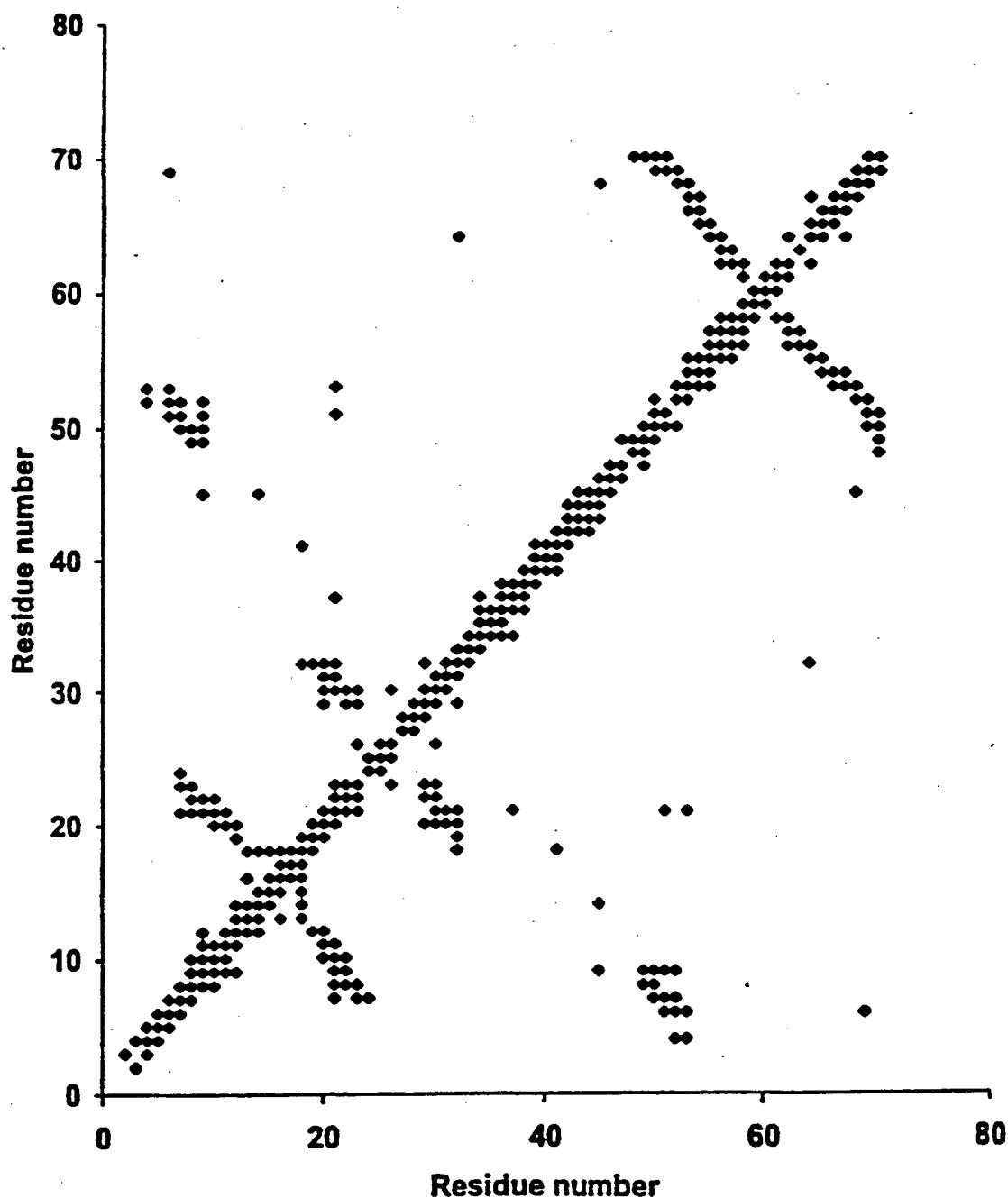


FIG. 16

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Cspa: Automated Assignment Analysis**FIG.18**

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Cspa: AUTOMATED STRUCTURE ANALYSIS

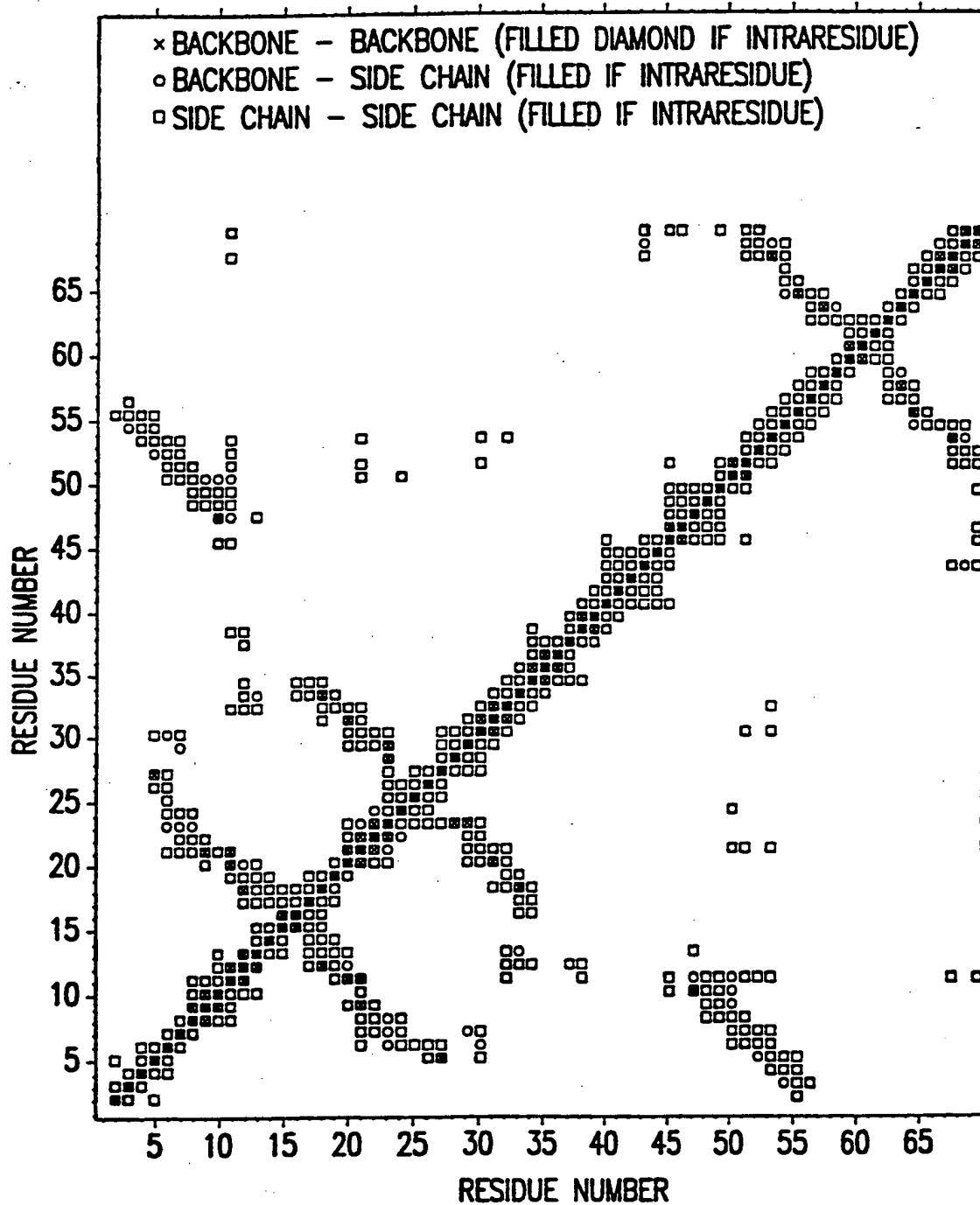


FIG. 19

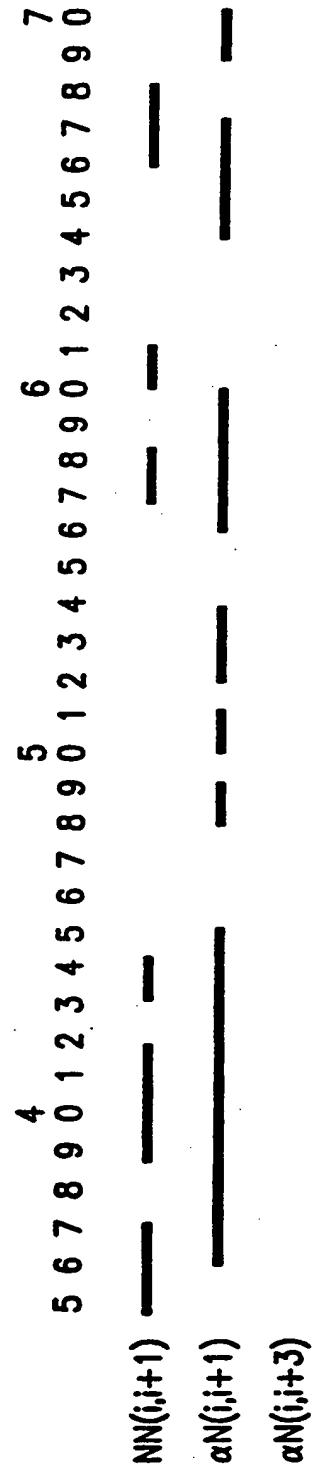
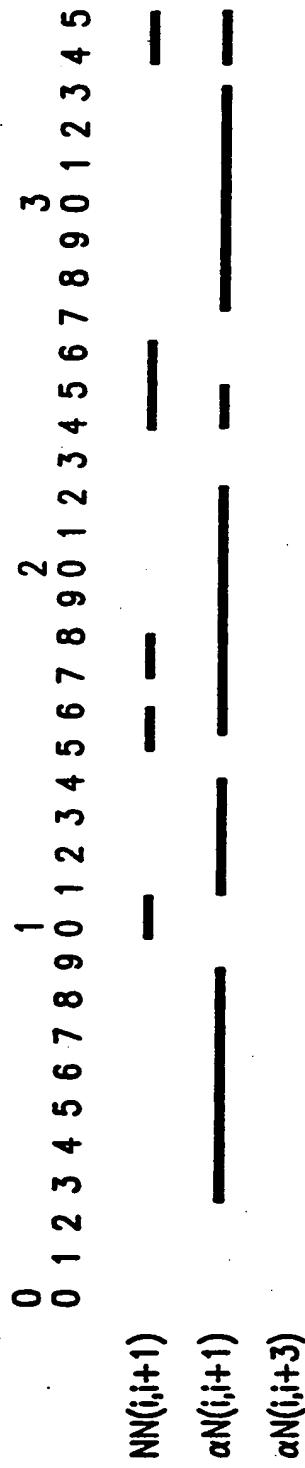
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Cspa: AUTOMATED ANALYSIS-CONNECTIVITY MAP



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Cspa: Manual Assignment Analysis

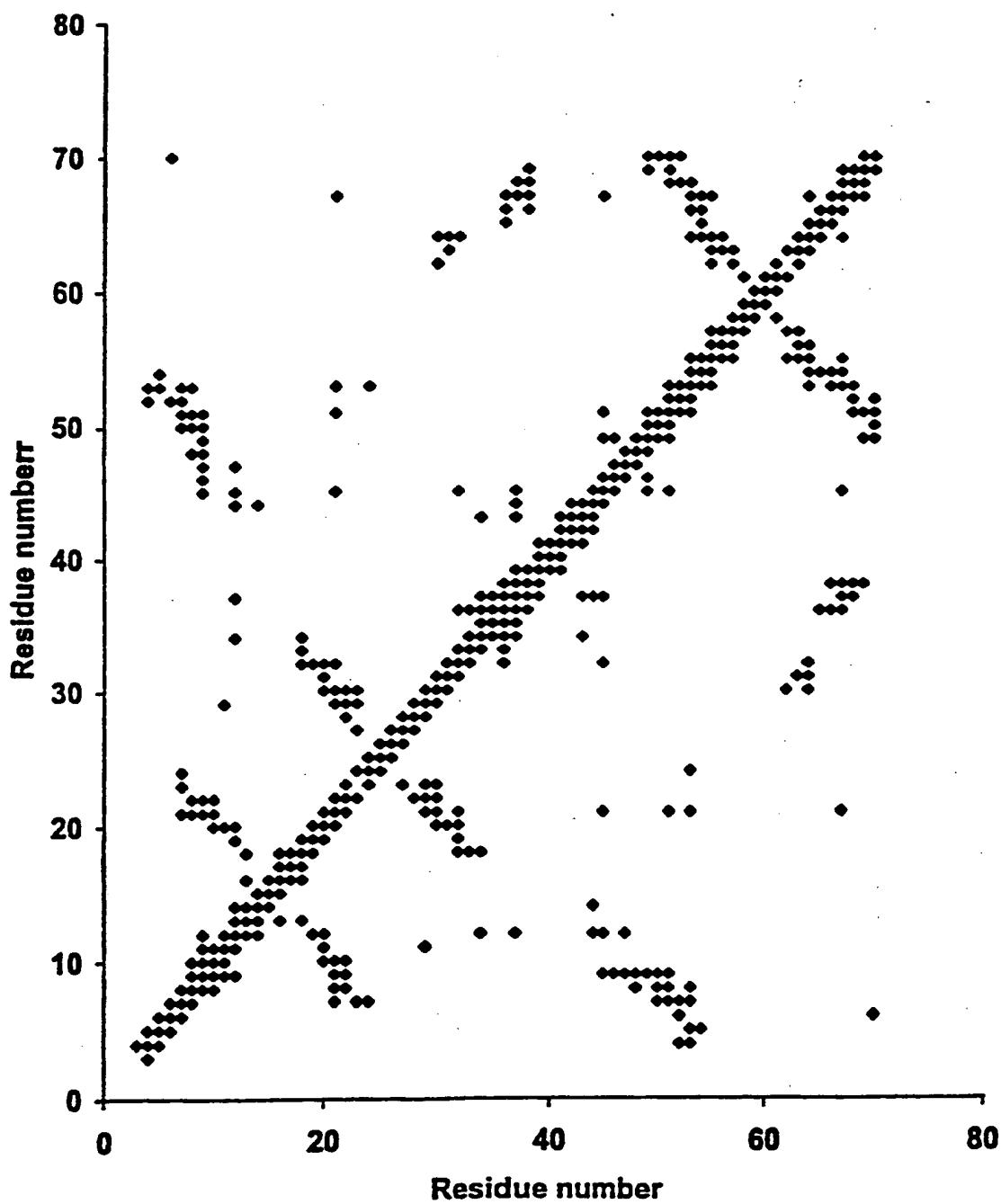


FIG.21

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Cspa: MANUAL STRUCTURE ANALYSIS

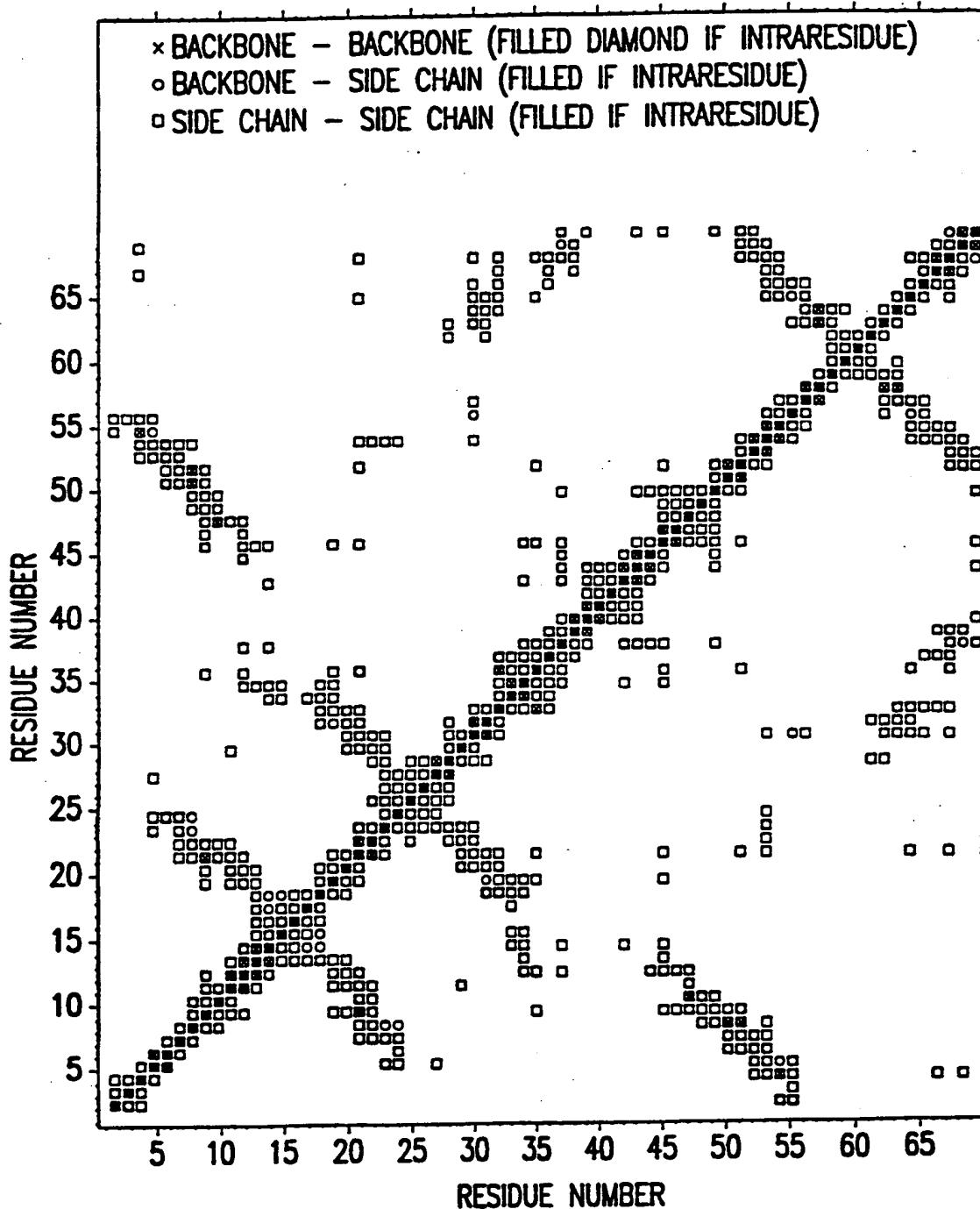


FIG.22

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CSDG: MANUAL ANALYSIS-CONNECTIVITY MAP

FIG. 23